

## NEW AUSTRALIAN LEAF-HOPPERS

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The classification adopted in this paper is based on the system proposed in an earlier publication (Evans, 1939). No excuse is offered for considering the principal jassoid groups as families, as they are certainly as distinct as well established families in several other Orders of insects. As long as jassoid classification rests, to such a large extent, on the position of the ocelli, little progress will be made, and genera such as *Xcrophloca* Germ. which on basic head structure and accessory characters clearly belongs to the Ledridae, will continue to be misplaced.

## BYTHOSCOPIDAE

***Parablocratus australis* sp. nov.** (Fig. 13)

*Length*, 6 mm. General coloration, pale yellowish-green; eyes reddish-brown. *Head*, ante-clypeus parallel-sided, projecting beyond the maxillary plates. Apex of head consisting of a white apical band, of even width throughout, bounded on each side by a narrow brown line. The ocelli on this band are in contact with the eyes on each side. Crown flat, coronal suture extending a little beyond the ocelli. *Pronotum*, more or less parallel-sided. *Tegmen* hyaline, very pale green, appendix wide. *Legs* flattened, and with a development of minute spines between each of the spines in the row of the shortest but strongest spines.

*Type* ♂, from Gregory Downs, North Queensland (T. G. Campbell, May 1931), in the collection of the C.S.I.R. Division of Entomology at Canberra.

***Parablocratus citrinus* sp. nov.** (Fig. 14-16)

*Length*, 6 mm. *Head* pale brown, ante-clypeus parallel-sided but not projecting beyond the maxillary plates; fronto-clypeus convex. Apical vertical margin of the head wider against the eyes than in the centre, white bounded on each side by a faint brown line. Ocelli on the apical margin, close to but not touching the eyes, visible from above. Crown concave, white with orange markings, coronal suture extending to between the ocelli. *Pronotum*, anteriorly white, posteriorly brown with orange markings as indicated in fig. 16. *Tegmen* pale hyaline brown, appendix narrow. Hind tibia flat with minute spines between each short spine.

*Type* ♀, from Cairns, North Queensland (A. M. Lea), in the collection of the South Australian Museum.

The genera *Parablocratus* Fieber and *Spanbergiella* Sign. are more closely related to *Bythoscopus* Germ. than to genera in the family Euscelidae. Accordingly they are added to the list of those genera, which in the opinion of the present author, comprises the family Bythoscopidae (Evans, 1939). It is recognised that although they are not extremely close to *Bythoscopus* and *Eurinoscopus* Kirk., they are more closely related to them than are such genera as *Macropsis* Lewis, *Idiocerus* Lewis and *Agallia* Curtis. With regard to the head, in *Parablocratus* and *Spanbergiella* the ocelli are marginal, in *Bythoscopus* they are ventral. The ante-clypeus is rectangular in all three genera, the maxillary plate wide and the labium short. The crown in *Bythoscopus* consists entirely of the vertex; in the other two genera it is made up of the vertex and part of the fronto-clypeus. The pronotum in all is wide and more or less parallel-sided, the tegmina have all similar venation, and the hind tibiae are flattened and slightly curved. A change in head shape from an evenly rounded head with ventral or marginal ocelli to one that is

flattened or even spatulate with marginal or dorsal ocelli has occurred independently in several groups of leaf-hoppers. A series of figures illustrating such a change and the transition stages, has been given in an earlier paper (Evans, 1937).

## IDIOCERIDAE

### *Idiocerus swani* sp. nov. (Fig. 4)

*Length*, 6 mm. (♀), 4.5 mm. (♂). *Head* biscuit-coloured suffused with pink posteriorly; ocelli red; eyes, dark reddish-brown. Face of the head in two distinct planes which are separated by a line joining the antennae. Fronto-clypeus anteriorly convex, posteriorly flat. Crown of even width throughout, pink with two small black spots close to the eyes on each side. *Pronotum*, finely transversely striated, yellowish-pink with two large black spots in a line with the internal margin of the eyes on each side. *Scutellum*, wide and long with a median transverse depression, marked with a variable pattern of black, yellow and pinkish-brown. *Tegmen* hyaline brown, veins pink excepting for the first anal vein which is white. *Thorax* and *abdomen*, ventral surface pale biscuit colour; ovipositor, black.

*Type*, ♀, from Flinders Chase, Kangaroo Island (D. C. Swan, February 1940), in the collection of the South Australian Museum.

### *Idiocerus flindersi* sp. nov. (Fig. 1)

*Length*, 4.5 mm. *Head*, ventral surface pale biscuit-colour, eyes dull red. Ante-clypeus medially depressed, lora swollen; fronto-clypeus anteriorly medially convex, posteriorly flat. Crown of even width throughout, slightly produced anteriorly. *Pronotum* and *scutellum* pale biscuit-colour. *Tegmen*, transparent, colourless, veins apically pale brown.

*Type*, ♀, from Flinders Chase, Kangaroo Island (D. C. Swan, February, 1940), in the collection of the South Australian Museum.

### *Idiocerus macropensis* sp. nov. (Fig. 2 and 3)

*Length*, 3 mm. *Head*, ventral surface almost flat, pale biscuit-colour, with a rectangular grey area lying against the posterior margin; ocelli brown, eyes black. Crown wide, pale brown and pale yellowish-brown with two small black spots close to the anterior margin. *Pronotum* concolorous with the crown. *Tegmen*, dull whitish-grey with several scattered brown spots, apical cells hyaline, veins white. *Thorax*, ventral surface black. *Abdomen*, ventral surface pale biscuit-colour.

*Type*, ♀, from Flinders Chase, Kangaroo Island (D. C. Swan, February, 1940), in the collection of the South Australian Museum.

### *Idiocerus insularis* sp. nov. (Fig. 5 and 6)

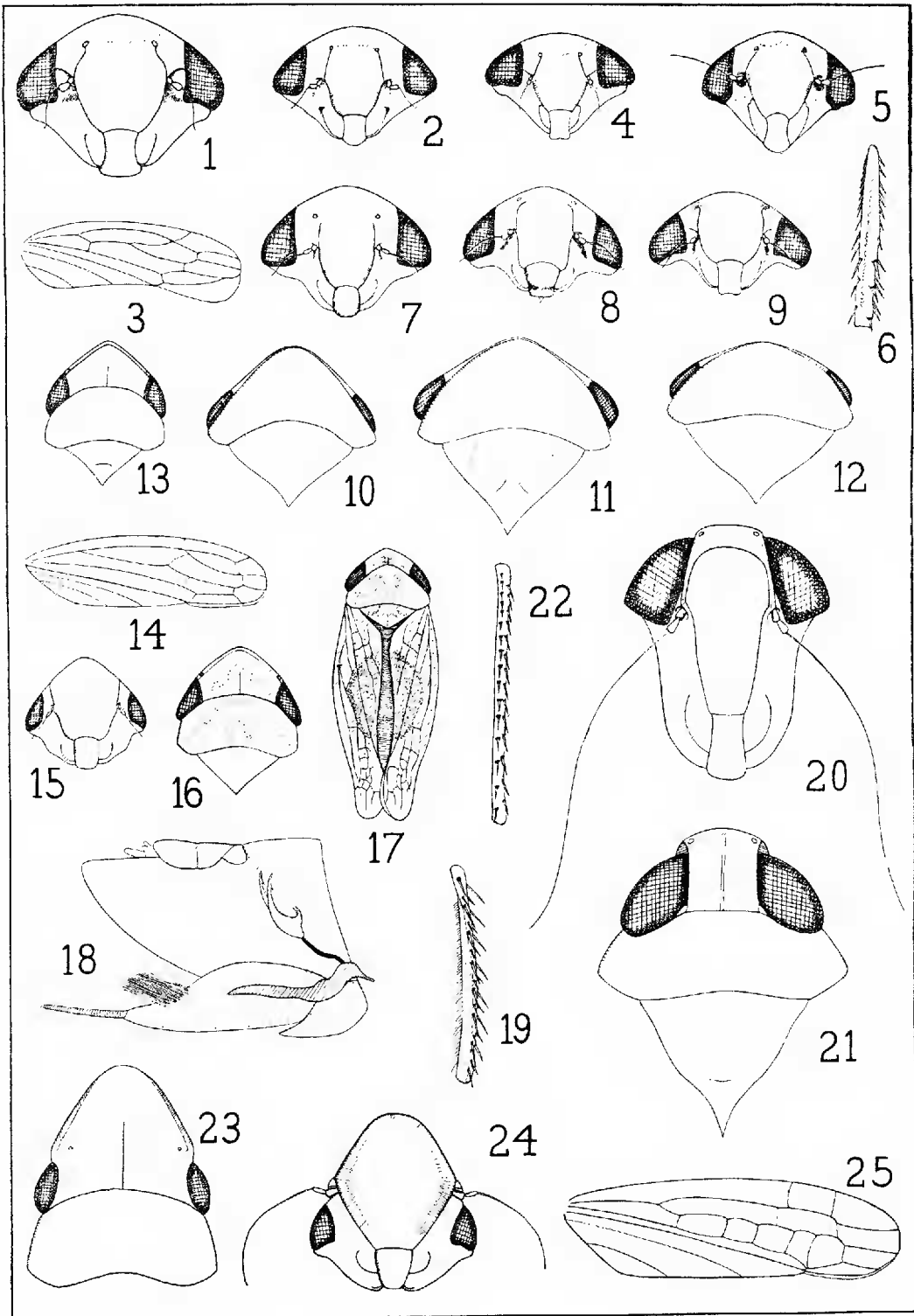
*Length*, 2.5 mm. *Head*, ventral surface evenly convex, ante- and fronto-clypeus apricot-colour; eyes purplish-brown, ocelli black; an oval area against the posterior margin of the face, purplish-brown; lora and maxillary plates biscuit-coloured. Crown medially pale purplish-brown, laterally apricot, slightly wider in the centre than against the eyes. *Pronotum* and *scutellum* golden-yellow. *Tegmen*, golden-yellow, apically hyaline. *Thorax* and *abdomen*, ventral surface pale biscuit-colour.

*Type*, ♂, from Flinders Chase, Kangaroo Island (D. C. Swan, February 1940), in the collection of the South Australian Museum.

### *Austrocercus* gen. nov.

The ante-clypeus is flat anteriorly and steeply convex posteriorly. The fronto-clypeus is narrow and convex anterior to the antennae; posterior to the

antennae the face is evenly rounded. The maxillary plates are narrow and emarginate, the eyes large and the apices of the frontal sutures directed inwards. The crown is wide and the coronal suture distinct. The hind tibia has one spine set on a prominent base in a row containing four other spines.



**Austrocerus emarginatus** sp. nov. (Genotype) (Fig. 8)

*Length*, 3 mm. *Head*, ventral surface biscuit-colour, eyes lemon. Crown wider in the centre than against the eyes, medially apricot-colour, laterally biscuit-colour. *Pronotum*, *scutellum* and *tegmen*, apricot. *Thorax* and *abdomen*, ventral surface biscuit-colour.

*Type*, ♀, from Flinders Chase, Kangaroo Island (D. C. Swan, February 1940), in the collection of the South Australian Museum.

**Macrocerus** gen. nov.

The ante-clypeus and the fronto-clypeus are wide and almost flat, and the maxillary plates are narrow and depressed below the level of the lora. The frontal sutures are directed outwards apically and the ocelli are sunk in slight depressions. The crown is wide and the coronal suture very short. The hind tibia has two spines set on prominent bases in a row containing four other spines.

**Macrocerus minutus** sp. nov. (Genotype) (Fig. 9)

*Length*, 3 mm. *Head*, ventral surface lemon-yellow; eyes, greenish-yellow. Crown slightly wider in the centre than against the eyes. *Pronotum*, *scutellum* and *tegmen*, pale buff. *Thorax* and *abdomen*, ventral surface pale biscuit-colour.

*Type*, ♂, from Flinders Chase, Kangaroo Island (D. C. Swan, February 1940), in the collection of the South Australian Museum.

**Idiocerella** gen. nov.

The ante-clypeus is swollen and declivous anteriorly and narrow posteriorly. The fronto-clypeus is evenly rounded and narrow, and the frontal sutures are parallel. The crown is wide and the coronal suture short. The hind tibia has two spines set on prominent bases in a row containing four other spines.

**Idiocerella obscura** sp. nov. (Genotype) (Fig. 7)

*Length*, 3.5 mm. *Head*, ventral surface pale buff, eyes lemon-yellow. Crown slightly anteriorly produced, wider in the centre than against the eyes. *Pronotum* wide, hind border medially emarginate, dull buff. *Scutellum* and *tegmen* dull buff.

*Type*, ♀, from Flinders Chase, Kangaroo Island (D. C. Swan, February 1940), in the collection of the South Australian Museum.

Nineteen species of *Idiocerus* Lewis have been described previously from Australia. Of these twelve occur in Queensland and two in Western Australia. Two of the remaining species, *I. seckeri* Ev. and *I. kirkaldyi* Ev., are abundant and widespread in South-Eastern Australia and Tasmania, whilst three are apparently rare insects. It is of particular interest to be able to record four new

## DESCRIPTION OF FIGURES

Fig. 1-25

1, *Idiocerus flindersi*, head, ventral aspect; 2, *Idiocerus macropensis*, head, ventral aspect; 3, *Idiocerus macropensis*, tegmen; 4, *Idiocerus swani*, head, ventral aspect; 5, *Idiocerus insularis*, head, ventral aspect; 6, *Idiocerus insularis*, hind tibia; 7, *Idiocerella obscura*, head, ventral aspect; 8, *Austrocerus emarginatus*, head, ventral aspect; 9, *Macrocerus minutus*, head, ventral aspect; 10, *Macropsis viridiceps*, head and thorax, dorsal aspect; 11, *Macropsis variabilis*, head and thorax, dorsal aspect; 12, *Macropsis norrisi*, head and thorax, dorsal aspect; 13, *Parablocratus australis*, head and thorax, dorsal aspect; 14, *Parablocratus citrinus*, tegmen; 15, *Parablocratus citrinus*, head, ventral aspect; 16, *Parablocratus citrinus*, head and thorax, dorsal aspect; 17, *Eutettix passiflorae*; 18, *Eutettix passiflorae*, male genitalia; 19, *Eutettix passiflorae*, hind tibia; 20, *Tharra leai*, head, ventral aspect; 21, *Tharra leai*, head and thorax, dorsal aspect; 22, *Tharra leai*, hind tibia; 23, *Austronirvana flavus*, head and thorax, dorsal aspect; 24, *Austronirvana flavus*, head, ventral aspect; 25, *Austronirvana flavus*, tegmen.

species of *Idiocerus* and three new species in allied genera, collected in a restricted area on Kangaroo Island during the same month.

## MACROPSIDAE

### *Macropsis viridiceps* sp. nov. (Fig. 10)

*Length*, 4 mm. *Head*, ventral surface emerald green, longer than wide; eyes reddish-brown. Crown visible above as a very narrow border, widest against the eyes. *Pronotum* emerald green, steeply declivous anteriorly. *Scutellum* yellow with two dark brown triangular markings against the anterior margin. *Tegmen* transparent, colourless, pale grey apically; a black spot at the apex of the claval suture, and the costal border proximally black. *Thorax* and *abdomen*, ventral surface green. The bases of the spines on the hind tibiae, dark brown.

*Type*, ♀, from Hobart, Tasmania (J. W. E., February 1936), in the collection of the South Australian Museum.

### *Macropsis variabilis* sp. nov. (Fig. 11)

*Length*, 4 mm. *Head*, ventral surface wider than long, sordid yellow, eyes red. Crown narrowly visible from above, widest against the eyes. *Pronotum* dull brown flecked with black, declivous anteriorly. *Scutellum* brownish-yellow with dark brown punctures. *Tegmen* smoky-hyaline, clavus and costal margin green. *Wing* with  $R_{2+3}$  not fully developed. *Thorax* and *abdomen*, ventral surface, pale greenish-yellow.

*Type*, ♂, from New Norfolk, Tasmania (J. W. E., November 1938), in the collection of the South Australian Museum.

NOTE—This is a variable species, and the general coloration may be pale yellowish-green.

### *Oncopsis norrisi* sp. nov. (Fig. 12)

*Length*, 4 mm. *Head*, ventral surface, ante-clypeus, lora and maxillary plates, buff; fronto-clypeus reddish-brown, vertex posteriorly dark brown; eyes red. *Pronotum* declivous, red. *Scutellum* dull brown. *Tegmen* proximally pale yellow, distally testaceous; a wide red area between the costal border and the radius and a transverse median dark brown fascia; clavus yellow, anal margin dark brown; veins distally red. *Thorax* and *abdomen*, ventral surface pale yellow. *Legs* pale yellow, bases of spurs on hind tibia, black.

*Type*, ♀, from Guildford, Western Australia (K. R. Norris, September 1935), in the collection of the South Australian Museum.

## EUSCELIDAE

### *Eutettix passiflorae* sp. nov. (Fig. 17-19)

*Length*, 3.8 mm. *Head*, ventral surface buff with irregular yellowish-brown markings, eyes dark brown. Crown buff mottled with yellowish-brown. *Pronotum* anteriorly yellowish-brown, posteriorly grey mottled with brown. *Scutellum* apically, and anterior lateral angles, yellowish-brown, the remainder buff. *Tegmen* whitish-hyaline with an irregular pattern of light and dark brown spots; veins light and dark brown. An irregular dark grey median fascia extends from the anal border to half-way towards the costal border. *Thorax* and *abdomen*, ventral surface pale grey and buff. *Legs*, anterior two pairs buff with very dark brown markings on the femora and tibiae. Hind legs buff, bases of the spines dark brown.

*Male Genitalia*, as in fig. 18.

*Type*, ♂, from Sydney, N.S.W. (N. S. Noble on *Passiflora edulis*, August 1937), in the collection of the Australian Museum.

## JASSIDAE

**Tharra leai** sp. nov. (Fig. 20-22)

*Length*, 6 mm. *Head*, ventral surface coffee-colour, eyes black. Anteclypeus, fronto-clypeus and lora smooth, maxillary plates with marginal, and vertex with transverse striations. Ocelli distant from the fronto-clypeus which is raised above the level of the eyes; antennae very long. Crown wide consisting entirely of the vertex, the sides of which are at right-angles to the central portion. A median carina marks the position of the coronal suture. *Pronotum* and *scutellum*, dark brown. *Tegmen*, brownish-yellow, veins brown. *Thorax* and *abdomen*, ventral surface pale brown.

*Type*, ♀, from Cairns, North Queensland (A. M. Lea), in the collection of the South Australian Museum.

Kirkaldy (1906) in describing the genus *Tharra* stated that it differed from *Jassus* Fabr. by the possession of two sub-apical cells and the absence of transverse veins in the clavus. Later (1907) he was of the opinion that this venational difference was unreliable, and separated the two genera in a key in which *Jassus* was stated to have a flat frons and antennae situated near the intero-posterior angles of the eyes, whilst in *Tharra* the frons was raised and the antennae situated near the intero-anterior angles of the eyes. The species described above has been placed in Kirkaldy's genus as the fronto-clypeus is raised, although in the position of the insertion of the antennae it resembles *Jassus* rather than *Tharra*.

## NIRVANIIDAE

**Austronirvana** gen. nov.

The ante-clypeus, which is slightly convex, is narrower anteriorly than posteriorly. The fronto-clypeus is concave, especially apically, and the labium is short, reaching only a little beyond the fore-coxae. The head has an apical flattened margin which is wider against the antennae on each side than in the centre, and the muscle impressions of the sucking-pump extend onto this margin. The crown is evenly convex and declivous, and the coronal suture extends for two-thirds of the length of the crown. The ocelli are on the crown directly above the antennae and are closer to each other than are the eyes. The pronotum narrows slightly anteriorly and the scutellum is wide. The tegmen is long and narrow, has a narrow appendix and several cells are developed between the median and the first cubital vein. The hind tibia has two rows of evenly spaced similar spines, between which is a row of slightly longer spines set on enlarged bases. There is also a row of short hair-like spines.

**Austronirvana flavus** sp. nov. (Genotype) (Fig. 23-25)

*Length*, 10 mm. General coloration pale buff, eyes brown. *Tegmen* opaque, venation indistinct.

*Type*, ♀, from Mount Tamborine, Queensland (A. M. Lea), in the collection of the South Australian Museum.

NOTE—Other specimens of the species from the same locality are bright yellow with a median longitudinal orange stripe on the head and pronotum. This stripe may be bordered with white.

NOTE—In an earlier paper (1939) the genera *Ledrella* Ev. and *Ledraprora* Ev. were placed in a sub-family of the Ledridae, the Ledrellinae. It is now realised that this was an error, and they are herewith transferred to the family Thymbridae (Evans, 1939).

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